

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Rong-Chang LIANG

Appl. No. Not Yet Assigned

Filed: March 29, 2004

For: **IMPROVED ELECTROPHORETIC
DISPLAY AND NOVEL PROCESS
FOR ITS MANUFACTURE**

Art Unit: 2873

Examiner: Tra, Tuyen Q.

Atty. Docket: 07783.0002.CPUS10

Information Disclosure Statement

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith. It is further understood that the Examiner will consider information that had been cited by or submitted

to the U.S. Patent and Trademark Office in a prior application relied on under 35 U.S.C. § 120.
1138 OG 37, 38 (May 19, 1992).

Applicants have checked the appropriate boxes below.

- 1. This Information Disclosure Statement is being filed;
 - a. Within three months of the U.S. filing date of a national application other than a continued prosecution application under §1.53(d);
 - ☐ b. Within three months of the date of entry of the national stage as set forth in §1.491 in an international application;
 - ☐ c. Before the mailing date of a first Office Action on the merits;
 - ☐ d. Before the mailing of a first Office Action after filing of a request for continued examination under § 1.115.

No statement under 37 C.F.R. § 1.97(e) or fee is required.

or;

- ☐ 2. This Information Disclosure Statement is being filed after the period specified in paragraph 1(a)-1(d) above, but before the mailing date of a Final Rejection or Notice of Allowance, or action that otherwise closes prosecution in the application, and
 - ☐ a. I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1), or
 - ☐ b. I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to my knowledge after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2), or
 - ☐ c. Attached is our Check No. _____ in the amount of \$ _____ in payment of the fee under 37 C.F.R. § 1.17(p).
- ☐ 3. This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but

on or before payment of the Issue Fee. Attached is our Check No. _____ in the amount of \$ _____ in payment of the fee under 37 C.F.R. § 1.17(i), and


- ☐ a. I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1), or
- ☐ b. I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to my knowledge after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- ☐ 4. Relevance of the non-English language document(s) is discussed in the present specification.
- ☐ 5. The document(s) was/were cited in a corresponding foreign application. An English language version of the foreign search report is attached for the Examiner's information.
- ☐ 6. A concise explanation of the relevance of the non-English language document(s) appears below:
- ☐ 7. The Examiner's attention is directed to co-pending U.S. Patent Application No. _____, filed _____, which is directed to related technical subject matter. The identification of this U.S. Patent Application is not to be construed as a waiver of secrecy as to that application now or upon issuance of the present application as a patent. The Examiner is respectfully requested to consider the cited application and the art cited therein during examination.
- 8. All documents listed in the attached 1449 form were cited by or submitted to the Office in Application No. 09/518,488, filed March 3, 2000, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and to indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 08-3038 referencing docket number 07783.0002.CPUS10.

Respectfully submitted,

Date: March 29, 2004



Albert P. Halluin (Reg. No. 25,227)
Viola T. Kung (Reg. No. 41,131)

HOWREY SIMON ARNOLD & WHITE, LLP

301 Ravenswood Avenue

Box No. 34

Menlo Park, CA 94025

Tel: (650) 463-8109

Tel: (650) 463-8181

Fax: (650) 463-8400

INFORMATION DISCLOSURE STATEMENT PTO-1449			ATTY. DOCKET NO. 07783-0002 CPUS10		SERIAL NO. Not Yet Assigned	
			APPLICANTS: RONG, Chang-Liang, et al.			
			FILING DATE: March 29, 2004		GROUP: 2873	
U.S. PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	5,177,476	01/05/1993	Disanto et al.			
	5,872,552	02/16/1999	Gordon II et al.			
	4,655,897	04/07/1987	Disanto et al.			
	3,689,346	09/05/1972	Rowland			
	5,942,154	08/24/1999	Kim et al.			
	3,229,607	01/18/1966	Battaglia			
	5,877,848	03/02/1999	Gillette et al.			
	5,731,860	03/24/1998	Harada et al.			
	5,895,541	04/20/1999	Kobayashi et al.			
	5,985,084	11/16/1999	Summersgill et al.			
	3,885,964	05/27/1975	Nacci			
	4,741,604	05/03/1988	Kornfeld			
	5,200,120	04/06/1993	Sakai			
	6,113,836	09/05/2000	Sakai et al.			
	6,400,492	06/04/2002	Morita et al.			
	6,512,626	01/28/2003	Schmidt			
	6,514,328	02/04/2003	Katoh et al.			
	5,589,100	12/31/1996	Grasso et al.			
	5,835,174	11/10/1998	Clíkeman et al.			
	5,976,405	11/02/1999	Clíkeman et al.			
	6,037,058	03/14/2000	Clíkeman et al.			
	3,908,052	09/23/1975	Sanders			
	5,274,481	12/28/1993	Kim			

	5,739,889	04/14/1998	Yamada et al.			
	6,120,946	9/19/2000	Johnson et al.			
	6,166,797	12/26/2000	Bruzzone et al.			
	5,843,333	12/01/1998	Hakemi			
	5,460,688	10/24/1995	Disanto et al			
	3,892,568	07/01/1975	Ota et al.			
	6,191,250	02/20/2001	Aida et al.			
	4,190,352	02/26/1980	Bruning			
	4,924,257	05/08/1990	Jain			
	5,285,236	02/08/1994	Jain			
	5,652,645	07/29/1997	Jain			
	5,398,041	03/14/1995	Hyatt			
	5,432,526	07/11/1995	Hyatt			
	5,995,190	11/30/1999	Nagae et al.			
	5,956,112	09/21/1999	Fujimori et al.			
	5,450,220	09/12/1995	Onishi et al.			
	6,018,383	01/25/2000	Dunn et al.			
	3,668,106	June 1972	Ota			
	5,930,026	July 1999	Jacobson et al			
	5,961,804	Oct 1999	Jacobson et al			
	6,017,584	Jan 2000	Albert et al			
	4,741,988	May 1988	Van der Zande et al			
	6,184,856	Sep 1998	Gordon II et al			
	6,120,839	Aug 1998	Comiskey et al			
	3,612,758	10/12/1971	Evans			
	5,279,511	01/18/1994	DiSanto et al			
	5,699,097	Dec 1997	Takayama et al			
	6,067,185	May 2000	Albert et al			
	6,113,810	Sep 2000	Hou et al			
	4,071,430	Jan 1978	Liebert			
	4,093,534	June 1978	Carter et al			

	4,285,801	Aug 1981	Chiang			
	4,680,103	July 1987	Beilin Solomon I et al			
	5,380,362	Jan 1995	Schubert			
	5,403,518	Apr 1995	Schubert			
	5,573,711	Nov 1996	Hou et al			
	5,914,806	Jun 1999	Gordon II et al			
	6,337,761	Jan 2002	Rogers et al			
	5,276,438	Jan 1994	DiSanto et al			
	6,067,185	May 2000	Albert et al			
	6,120,588	Sep 2000	Jacobson			
	6,172,798	Jan 2001	Albert et al			
	6,312,304	Nov 2001	Duthaler et al			
	6,327,072	Dec 2001	Comiskey et al			
	6,392,785	May 2002	Albert et al			
	6,392,786	May 2002	Albert			
	6,064,508	May 2000	Forgette et al			
	6,239,896	May 2001	Ikeda			
	6,400,430	Jun 2002	Nakao et al			
	4,891,245	Jan 1990	Micale			
	3,928,671	Dec 1975	Robusto et al			
	6,525,865	Feb 2003	Katase			
	6,319,381	Nov 2001	Nemelka			
	6,652,075	Nov 2003	Jacobson			
	6,524,153	Feb 2003	Ikeda et al			
	2001/0009352	07/26/2001	Moore			
	2002/0029969	03/14/2002	Yager et al.			
	2002/0196525	12/26/2002	Chen et al.			
	2002/0018043	02/14/2002	Nakanishi			
	2002/0188053	12/12/2002	Zang et al.			
	20020182544	12/05/2002	Chan-Park, et al.			
	20020126249	09/12/2002	Liang, et al.			

	USSN 09/606,654	Filed 06/28/00					
FOREIGN PATENT DOCUMENTS							
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY (Inventor)	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
	199 27 359.6	Pub. Date 12/21/00	Germany ¹ (Schmidt, F. G.)			<input type="checkbox"/>	<input checked="" type="checkbox"/>
	2,340,683	Nat'l Entry Dt 2/14/2001	Canada (Schmidt, F. G.)			<input checked="" type="checkbox"/>	<input type="checkbox"/>
	EP 1065553	Pub Date 01/03/2001	Europe (Ogawa)			<input type="checkbox"/>	<input type="checkbox"/>
	EP 0990942	Pub Date 04/05/2000	Europe (Yamanaka)			<input type="checkbox"/>	<input type="checkbox"/>
	EP 1195603	Pub Date 04/10/2002	Europe (Kawai)			<input type="checkbox"/>	<input type="checkbox"/>
	JP 6242423	Pub Date 09/02/1994	Japan (Nakai Yuichi) (English abstract included)			<input type="checkbox"/>	<input checked="" type="checkbox"/>
	JP 64-86116	Pub Date 03/30/1989	Japan (Osamu et al) (English abstract included)			<input type="checkbox"/>	<input checked="" type="checkbox"/>
	JP 60-205452	Pub Date 10/17/1985	Japan (Hisanori) (English abstract included)			<input type="checkbox"/>	<input checked="" type="checkbox"/>
	JP 2000 035677	Pub Date 02/02/2000	Japan (English abstract included)			<input type="checkbox"/>	<input checked="" type="checkbox"/>
	JP 2000 075497	Pub Date 03/14/2000	Japan (English abstract included)			<input type="checkbox"/>	<input checked="" type="checkbox"/>
	JP 2001 042118	Pub Date 02/16/2001	Japan (English abstract included)			<input type="checkbox"/>	<input checked="" type="checkbox"/>
	JP 2001 056653	Pub Date 02/27/2001	Japan (Hayakawa) (English abstract included)			<input type="checkbox"/>	<input checked="" type="checkbox"/>
	JP 02284126	Pub Date 11/21/1990	Japan (Oshiro) (English abstract included)			<input type="checkbox"/>	<input checked="" type="checkbox"/>
	JP 59171930	Sep 1984	Japan (English abstract included)			<input type="checkbox"/>	<input type="checkbox"/>
	JP 02284125	Nov 1990	Japan (English abstract included)			<input type="checkbox"/>	<input type="checkbox"/>
	JP 02223934	Sep 1990	Japan (English abstract included)			<input type="checkbox"/>	<input type="checkbox"/>
	JP 57104116	Jun 1982	Japan (English abstract included)			<input type="checkbox"/>	<input type="checkbox"/>
	JP 01-300232	Dec 1989	Japan (English abstract included)				
	JP 04-113386	Apr 1992	Japan (English abstract included)				
	JP 59-034518	Feb 1984	Japan (English abstract included)				
	JP 62-099727	May 1987	Japan (English abstract included)				

	JP 02-223936	Sep 1990	Japan (English abstract included)				
	JP 09-160052	Jun 1997	Japan (English abstract included)				
	WO 97/04398	Pub Date 02/06/1997	PCT (Jacobson)			<input type="checkbox"/>	<input type="checkbox"/>
	WO 00/77571	Pub Date 12/21/00	PCT ¹ (Schmidt, F. G.)			<input type="checkbox"/>	<input checked="" type="checkbox"/>
	WO 01/67170	Pub Date 09/13/2001	PCT (Liang et al.)			<input type="checkbox"/>	<input type="checkbox"/>
	WO 99/08151	Pub Date 02/18/1999	PCT (Bruzzzone et al.)			<input type="checkbox"/>	<input type="checkbox"/>
	WO 00/03291	Pub Date 01/20/2000	PCT (Jacobson et al.)			<input type="checkbox"/>	<input type="checkbox"/>
	WO 02/01281	Pub Date 01/03/2002	PCT (Liang et al.)			<input type="checkbox"/>	<input type="checkbox"/>
	WO 99/53373	Pub Date 10/21/1999	PCT (Drzaic)			<input type="checkbox"/>	<input type="checkbox"/>
	WO 99/56171	Nov 1999	PCT			<input type="checkbox"/>	<input type="checkbox"/>
	WO 00/60410	Oct 2000	PCT			<input type="checkbox"/>	<input type="checkbox"/>
	WO 00/36649	Jun 2000	PCT			<input type="checkbox"/>	<input type="checkbox"/>
	WO 98/57226	Dec 1998	PCT			<input type="checkbox"/>	<input type="checkbox"/>
	EP 1089118	Apr 2001	EPO			<input type="checkbox"/>	<input type="checkbox"/>
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
	Drzaic, P.S., "Liquid Crystal Dispersions" , The PDLC Paradigm, pp 1-9, (1995)						
	Singer, B. et al, "X-Y Addressable Electrophoretic Display", Proc. SID 18(3/4), pp-255-266 (1977)						
	Kazlas, P. et al., "12.1: 12.1" SVGA Microencapsulated Electrophoretic Active Matrix Display for Information Appliances" <i>SID 01 Digest</i> 152-155 (2001)						
	Bryning et al., "37.4: Reverse-Emulsion Electrophoretic Display (REED)" <i>SID 98 Digest</i> pp. 1018-1021 (1998)						
	Swanson et al., "5.2: High Performance Electrophoretic Displays" <i>SID 00 Diges</i> , pp-29-31 (2000)						
	Inoue, S. et al., "High Resolution Microencapsulated Electrophoretic Display (EPD) Driven by Poly-Si TFTs With Four-Level Grayscale" <i>IEEE Transactions on Electron Devices</i> 49(8), pp-1532-1539 (2002)						
	Matsuda Y. "Newly designed, high resolution, active matrix addressing in plane EPD" <i>IDW 02 EP2-3</i> 1341-1344 (2002)						
	Ota et al., "Developments in Electrophoretic Displays" <i>Proc. of SID</i> , Vol. 18/3&4, pp-243-254 (1977)						
	Kishi, E et al, "5.1 Development of In-Plane EPD", Canon Research Center, SID 00 Digest, pp-24-27						
	Ota, et al., "Electrophoretic Image Display (EPID) Panel, "Wireless Research Laboratory, Matsushita Electric Industrial Company, Ltd., Osaka, 571, Japan, received Feb 7, 1973, pp-832-836, July 1973						
	Murau and Singer, "The Understanding and Elimination of Some Suspension Instabilities in an Electrophoretic Display", Philips Laboratories, Briarcliff Manor, NY 10510, April 10, 1978, J. Appl. Phys. 49(9), pp-4820-4829						

	Nakamura, et al, "Development of Electrophoretic Display using Microencapsulated Suspension", NOK Corporation, Kanagawa, Japan & NOK Corporation, Ibaraki, Japan, SID 98 Digest, pp-1014-1017
	J. C. Lewis, "Electrophoretic Displays", Allen Clark Research Centre, The Plessey Company Ltd., Caswell, Towcester, Northants, England, pp-223-240
	Comiskey et al, "An Electrophoretic Ink for All-printed Reflective Electronic Displays", Letters to Nature, MIT, The Media Laboratory, 20 Ames Street, Cambridge, MA 02139-4307, USA, May 1998, pp-253-255
	Dalisa, A. L., "Electrophoretic Display Technology", IEEE Trans. Electron Devices, pp-827-834 (1977)
	Harbour, J. R., "Subdivided Electrophoretic Display" Xerox Disclosure Journal, US Xerox Corporation, Stamford, Conn., 4(6):705, November 1979, XP002123212
	Harvey, T.G., "Replication Techniques for Micro-optics", SPIE Proc., Vol. 3099, pp-76-82 (1997)
	Slafer, W. D. et al, "Continuous Manufacturing of Thin Cover Sheet Optical Media", SPIE Proc., Vol. 1663, pp-324-335 (1992)
	Hopper, M. A. et al, "An Electrophoretic Display, its Properties, Model and Addressing", IEEE Transactions on Electron Devices, 26(8): 1148-1152 (1979)
EXAMINER	DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.